

ABSTRACT

The invention provides a sample observation method capable of understanding the three-dimensional shape of a sample in a wider range. The observation method of the invention calculates heights (height differences) in the whole domain of an image, from plural sheets of images of different field-of-view angles, being in focus over the whole image, attained by means of the focal depth expanding function to thereby create a map (Z map) of the height information by each pixel, and displays a three-dimensional image as a bird's-eye view. The method also displays to superpose a Z map attained from image signals reflecting the surface structure on a Z map attained from image signals reflecting the composition information with different colors, which makes it possible to clearly understand the spatial distribution of a substance of unique composition inside the sample.